

# CYCLOFLEX® adhesive improves recycled paper productivity

Encore Paper Co., a newly formed recovered paper mill in South Glens Falls, NY, is using a recyclable hot-melt adhesive to further environmental benefits and reduce waste. Encore bought the former James River paper mill in March 1992. The mill has become New York state's largest independent recycler of recovered paper for the manufacture of towel and tissue products for the away-from-home market. The facility produces a full line of commercial towel, tissue, and napkin products from 100% recycled fiber for food service operations, offices, and health care facilities. Encore sells its paper products as far west as Chicago, as far south as Atlanta, and in the northeastern provinces of Canada.

The mill's furnish is about 50% pre-consumer and 50% post-consumer recovered paper. Most of the scrap paper is supplied through paper brokers in the northeastern United States. With 20 converting complexes, the company processes 200 tons/day of recovered paper. About 20% of the processed paper originates from sources within a 50-mile radius of the mill.

## Recyclable adhesive

When Encore put on-line its new 150 Series PCMC hard wound towel machine, it selected a recyclable hot melt as the tail seal adhesive. National Starch and Chemical Co.'s water-soluble, solvent-free CYCLOFLEX™ 70-3780 adhesive allows 10% of towel converting waste to bypass the deinking process. The waste goes directly to the paper mill pulpers that repulp already-deinked in-plant paper-making and converting waste, which consists of 100% recycled fiber. This process increases mill productivity.

**Cover Photo:** *Encore Paper has received broad recognition for its process technology, which permits the recycling of a wide range of waste papers, including junk mail, corrugated cardboard and coated stock. The Encore process is chlorine free.*

The mill also deals with fewer chemicals from inks, adhesives, and other contaminants removed from the deinking process. Mill managers report an improvement in product quality due to the good adherence of CYCLOFLEX adhesive to the towel tail. CYCLOFLEX hot-melt adhesive is based on patented polymer technology that promotes recyclability. Its low viscosity and excellent water dispersibility over a wide range of temperatures allow the adhesive film to be repulped. Because it is dispersible in water, it breaks down easily in the pulpers. CYCLOFLEX also possesses a combination of tack, range and adhesion, and excellent machining, all characteristics that enable it to perform well on the hard-wound towel machine.

At the towel winder, a Nordson automatic hot-melt application gun applies the CYCLOFLEX hot melt to adhere the tail. The towel machine produces 800 cases/day of both kraft and bleached towel at about four cycles/min, running on two shifts.

The mill's 140-in. Perini Alpha rewinder converts 58 tons/day of recycled paper into finished product. Encore applies National 18-3338 as the pickup adhesive on the tissue rewinder. "We run the machine at speeds of 2400 feet per minute and higher," says Frank Gifford, converting plant manager. Encore also runs National's 71-3983 on its household towel tail ties. Both are liquid emulsion adhesives.

## Results

"Our technology allows us to process a wider range of recovered paper than other plants," says William L. New, Encore chairman and CEO. "We can process glossy paper, such as maga-

zines, newspaper inserts, and junk mail, as well as newsprint, corrugated boxes, and recovered paper from offices, schools, and homes.

Encore's technology uses no dispersants in the pulping operation. The pulpers capture most contaminants via extraction plates equipped with very fine holes. Flotation cells play an important role as well. "Our deinking facilities and our ability to filter out and sagely capture residual materials, such as clay contained in coated or glossy paper, puts us in high conformance with environmental regulations," New says.

Over the next five years, he said, Encore will make a major commitment to a capital improvement program for paper and converting machinery, among other technological improvements. "At Encore, facilities as well as product lines are in place, thus making this new company an important part of the solution," says New.

"The only paper plants built in the United States in the past five years are those that process recycled paper. This is a strong signal and an unmistakable long-term commitment from within our industry. Our mill provides an ecologically sound method for disposal of tens of thousands of tons of recovered paper annually," he says. "CYCLOFLEX adhesive helps the mill fulfill this environmental commitment.

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